

**TECHNICAL REVIEW AND EVALUATION
FOR
OPERATING AIR QUALITY PERMIT #44308**

CITY OF YUMA

Water Pollution Control Facility

I. INTRODUCTION

This renewal permit is for the operation of the City of Yuma—Yuma Water Pollution Control Facility (WPCF) located in Yuma, Yuma County, Arizona.

A. Company Information

Facility Name: City of Yuma—Water Pollution Control Facility

Mailing Address: Yuma Water Pollution Control Facility
155 W. 14th St.
Yuma, AZ 85364

Facility Location: 289 N. Figueroa Ave.
Yuma, AZ 85364

II. FACILITY DESCRIPTION

City of Yuma—Yuma Water Pollution Control Facility (WPCF) has a design capacity of 12 million gallons per day and uses an activated sludge process for carbonaceous biochemical oxygen demand (BOD) removal. Preliminary treatment consists of screening and grit removal, followed by primary clarification. Secondary treatment occurs in four aeration basins coupled with circular final clarifiers. The secondary effluent is disinfected then discharged to the Colorado River through a land outfall.

The sludge process includes three anaerobic digesters for sludge stabilization. The resulting biosolids are truck hauled to land application sites for final disposal.

Digester gas is utilized as fuel for the four sludge heater boilers. The balance of the digester gas is burned at the flares.

III. LEARNING SITES IN VICINITY

There are four impacted learning sites within a two mile radius of WPCF. The impacted schools are Rancho Viejo Elementary School, George Washington Carver Elementary School, Pecan Grove Elementary School and Immaculate Conception School. The Department has reviewed the emission sources at the facility and has determined that the operation of the facility will not adversely affect the learning sites.

IV. COMPLIANCE HISTORY

There is one air quality case associated with this facility which was initiated on June 7, 2007. There has been one facility inspection (Inspection No.103097) that was conducted on April 25, 2007, resulting in the below described air quality enforcement case.

The Air Quality case associated with this facility is Case ID Number 82976. A Notice of Violation was issued to the City of Yuma – Figueroa Ave WPCF on June 7, 2007 for seven permit violations based on the above mentioned inspection. The first permit violation was for non-compliance with ***Permit No. 12585 (1001094) - Attachment "A" Condition I.A & B for Permit Expiration and Renewal: A.) This permit is valid for a period of five years from the date of issuance of the permit.; B.) the Permittee shall submit an application for renewal of this permit at least 6 months, but not more than 18 months prior to the date of permit expiration.*** During ADEQ's record review and inspection conducted on April 25, 2007, the City of Yuma Figueroa Water Pollution Control Facility was found to have failed to renew their Air Quality Permit. Permit No. 12585 expired on March 22, 2006, and a renewal application had not been submitted at the time of the inspection. The deadline to achieve compliance was July 13, 2007 and was met on July 9, 2007.

The second permit violation was for non-compliance with ***Permit No.12585 - Attachment "A" Condition IV.B. A copy of the complete permit shall be kept on the site.*** During the inspection conducted by ADEQ on April 25, 2007, the City of Yuma Figueroa Water Pollution Control Facility failed to maintain a copy of the Air Quality Permit on-site. The deadline to achieve compliance was July 13, 2007 and was met on July 9, 2007.

The third permit violation was for non-compliance with ***Permit No. 12585 - Attachment "A" Condition VII. The Permittee shall submit a compliance certification to the Director twice each year, which describes the compliance status of the source with respect to each permit condition. The first certification shall be submitted no later than April 15th, and shall report the compliance status of the source during the period between September 16th of the previous year, and March 15th of the current year. The second certification shall be no later than October 15th, and shall report the compliance status of the source during the period between March 16th and September 15th of the current year.*** During the record review and inspection conducted by ADEQ on April 25, 2007, the City of Yuma Figueroa Water Pollution Control Facility failed to submit compliance certification twice a year since issuance of Permit No.12585 (Legacy Permit #: 1001094). The deadline to achieve compliance was July 13, 2007 and was met on July 9, 2007.

The fourth permit violation was for non-compliance with ***Permit No. 12585 - Attachment "B" Condition II.B.1, III.B.1, and IV.B.1 EPA Reference Method 9 shall be used to determine the opacity of the sludge heater boilers, digester gas flares, and emergency generators emissions each quarter. Upon completion of the Method 9 observations, the Permittee shall record the name of the observer, date, time, location and result of the observation.*** During the inspection conducted by ADEQ on April 25, 2007, the City of Yuma Figueroa Water Pollution Control Facility was unable to provide upon request documentation of quarterly Method 9 observations on sludge heater boilers, digester gas flares, and emergency generators. The deadline to achieve compliance was July 13, 2007 and was met on July 9, 2007.

The fifth permit violation was for non-compliance with ***Permit No. 12585 - Attachment "B" Condition IV.D.1 The Permittee shall maintain records of the operating hours of the generators on a twelve (12) month rolling total.*** During the inspection conducted by ADEQ on April 25, 2007, the City of Yuma Figueroa Water Pollution Control Facility was unable to provide upon request documentation of records of emergency generators' operating hours. The deadline to achieve compliance was July 13, 2007 and was met on July 9, 2007.

The sixth permit violation was for non-compliance with ***Permit No. 12585 - Attachment "B" Condition IV.D.2 The Permittee shall maintain records of fuel supplier certification which verify that the sulfur content of the fuel is less than the limit specified in Condition IV.C of this permit.*** During the inspection conducted by ADEQ on April 25, 2007, the City of Yuma Figueroa Water Pollution Control Facility was unable to provide upon request, documentation of records of fuel sulfur content certifications. The deadline to achieve compliance was July 13, 2007 and was met on July 9, 2007.

The seventh permit violation was for non-compliance with *Permit No. 12585 - Attachment "B" Condition II.C. The Permittee shall only burn digester gas in the sludge heater boilers.* During the inspection conducted by ADEQ on April 25, 2007, the City of Yuma Figueroa Water Pollution Control Facility stated that natural gas is initially used to start-up the sludge heater boilers and then a mixture of natural gas and digester gas is used to sustain the sludge heater boilers' operations. The deadline to achieve compliance was July 13, 2007 and was met on July 9, 2007.

No other air quality cases appear to be associated with this facility at this time. The facility is currently out-of-compliance and enforcement actions are on-going.

V. EMISSIONS

Pollutant	Emissions (tpy)
PM ₁₀	0.98
SO ₂	2.24
NO _x	13.32
VOC	2.43
CO	13.47

Emissions include a voluntary 500 hour per year limitation on all emergency internal combustion engines.

VI. APPLICABLE REGULATIONS

The Permittee has identified the applicable regulations that apply to each unit in its permit application. The following table summarizes the findings of the Department with respect to the regulations that are applicable to each emissions unit. Previous permit conditions are discussed under Section VI of this technical review document.

Applicable Regulations

Unit ID	Year of Manufacture	Control Equipment	Applicable Regulations	Verification
Boilers	1970 1980 1997	None	<u>A.A.C.</u> R18-2-724	The boilers are less than 250 MMBtu/hr and are used to produce steam. They are therefore subject to A.A.C R18-2-724. Boilers manufactured prior to 1989 are not subject to NSPS Subpart Dc.

Unit ID	Year of Manufacture	Control Equipment	Applicable Regulations	Verification
Internal Combustion Engines Not Subject to NSPS	1981 1997 1998 1999	None	<u>A.A.C.</u> R18-2-719.B R18-2-719.C.1 R18-2-719.E R18-2-719.F R18-2-719.H R18-2-719.I R18-2-719.J	These generators are used as emergency replacements. Each generator is over 325 hp and is therefore required to be permitted in accordance with A.A.C. R18-2-302.B.2.a.iv. Since both of the generators were manufactured before 2006, no NSPS requirements apply. They are therefore subject to A.A.C. R18-2-719, standards of performance for existing stationary rotating machinery.
Internal Combustion Engines Subject to NSPS	12/2006	None	<u>40CFR</u> 60.4204(a) 60.4205(a) 60.4206 60.4207(a)(b) 60.4209(a) 60.4211(a)(b)(e) 60.4212 60.4213 60.4214(c)	This generator is used as an emergency replacement. Since it was manufactured after April 1, 2006 it is subject to the New Source Performance Standards (NSPS) as defined in Code of Federal Regulations.

VII. PREVIOUS PERMIT CONDITIONS

A. Previous Permits

The following table lists the previous permits that have been issued to City of Yuma

Previous Permits

Date Permit Issued	Permit #	Application Basis
March 22, 2001	1001094	Operating Permit

B. Previous Permit Conditions

The following are discussions on the previous permits that have been issued to the source.

CLASS II, NON-TITLE V OPERATING PERMIT NO. 1001094

This operating permit was issued to City of Yuma on March 22, 2001 to operate a Water Pollution Control Facility.

OP #1001772, References	Determination				Comments
	Revise	Keep	Delete	Stream-line	
Att. A.	X				General provisions - revised to represent most recent language
Att.B.I.	X				State Implementation Plan-revised to represent most recent language
Att B.II.A		X			Emission Limitations/Standards-Particulate Matter and Opacity Requirements retained.
Att B.II.B		X			Test Methods, Monitoring, and Recording- Method 9 requirements have been retained and the verbiage has been revised to represent most recent language
Att B.II.C		X			Fuel Limitations- Digester gas requirements have been retained.
Att B.II.D		X			Record Keeping Requirements-requirements have been retained and the verbiage has been revised to represent most recent language
Att B.III.A	X				Emission Limitation/Standards-requirements have been retained, except that the limit has been changed from 40% to 20% per AAC R18-2-702.B.1
Att B.III.B		X			Test Methods, Monitoring, and Recording- Method 9 and opacity requirements have been retained and the verbiage has been revised to represent most recent language
Att B.III.C		X			Record Keeping Requirements-requirements have been retained and the verbiage has been revised to represent most recent language

OP #1001772, References	Determination				Comments
	Revise	Keep	Delete	Stream-line	
Att B.IV.A		X			Operational Limitation- The 500 hour per year limitation requirements has been retained and the verbiage has been revised to represent most recent language
Att B.IV.B		X			Emission Limitation/Standards- Particulate Matter and opacity requirements have been retained.
Att B.IV.B		X			Test Methods, Monitoring, and Recording- Method 9 requirements have been retained and the verbiage has been revised to represent most recent language
Att B.IV.C		X			Fuel Limitations- Diesel fuel requirements have been retained and the verbiage has been revised to represent most recent language
Att B.IV.D		X			Record Keeping Requirements- requirements have been retained and the verbiage has been revised to represent most recent language
Att C		X			Equipment List-Retained

VIII. MONITORING REQUIREMENTS

A. Wastewater Treatment Plant Requirement

Opacity

1. A certified EPA Reference Method 9 observer shall conduct a monthly survey of visible emissions emanating from the wastewater treatment plant. If the opacity of the emissions observed appears to exceed the standard, the observer shall conduct a certified EPA Reference Method 9 Observation. The Permittee shall keep records of the initial survey and any EPA Reference Method 9 observations performed. These records shall include the emission point observed, location of observer, name of observer, date and time of observation, and the results of the observation.
2. If the observation shows a Method 9 opacity reading in excess of 20 percent, the Permittee shall initiate appropriate corrective action to reduce the opacity below 20 percent. The Permittee shall keep a record of the corrective action performed.

B. Detroit and Allis Emergency Diesel Backup Engines

1. Opacity

- a. The Permittee shall keep records of fuel supplier certification to demonstrate compliance with the PM limit specified in Condition III.C.1. The certification shall contain information regarding the name of fuel supplier and lower heating value of the fuel. These records shall be made available to ADEQ upon request.

- b. A certified EPA Reference Method 9 observer shall conduct a monthly survey of visible emissions emanating from the stack of the IC engines if in operation. If the opacity of the emissions observed appears to exceed the standard, the observer shall conduct a certified EPA Reference Method 9 observation. The Permittee shall keep records of the initial survey and any EPA Reference Method 9 observations performed. These records shall include the emission point observed, name of observer, date and time of observation, and the results of the observation.
- c. If the observation results in a Method 9 opacity reading in excess of 40 percent, the Permittee shall report this to ADEQ as excess emission and initiate appropriate corrective action to reduce the opacity below 40 percent. The Permittee shall keep a record of the corrective action performed.

2. Sulfur Dioxide

- a. The Permittee shall keep daily records of the sulfur content of the fuel being fired in the machine. The Permittee shall keep records of the fuel supplier certifications to demonstrate compliance with the sulfur content limit specified in this Condition III.D.1. The certification shall contain the sulfur content of the fuel and the method used to determine the sulfur content of the fuel. The above mentioned fuel supplier certification records maintained by the Permittee on site shall meet the requirement for the daily records of the sulfur content of the fuel being fired in the machine requirement. These records shall be made available to ADEQ upon request.
- b. The Permittee shall report to the Director any daily period during which the sulfur content of the fuel being fired in the machine exceeds 0.8 percent.

IX. LIST OF ABBREVIATIONS

A.A.C.	Arizona Administrative Code
ADEQ	Arizona Department of Environmental Quality
CO	Carbon Monoxide
ft	Feet
hp	Horsepower
hr	Hour
IC	Internal Combustion
lb	Pound
MMBtu	Million British Thermal Units
NO _x	Nitrogen Oxide
PM	Particulate Matter
PM ₁₀	Particulate Matter Nominally less than 10 Micrometers
PTE	Potential-to-Emit
SO ₂	Sulfur Dioxide
TPY	Tons per Year
VOC	Volatile Organic Compound
yr	Year